Amendments to the Claims

1. (Original) A wireless communication system comprising:

a plurality of base stations and at least one repeater,

the at least one repeater comprises:

a receiver for receiving a primary signal;

a transmitter for transmitting a first signal;

a modification circuit for modifying the primary signal into the first signal, the modification circuit comprising: a cyclic shift register, a signal multiplier and a signal adder; the cyclic shift register and the receiver being connected to inputs of the signal multiplier, the receiver and output of the signal multiplier being connected to inputs of the signal adder; and, the output of the signal adder being connected to the transmitter.

2. (Original) The wireless communication system of Claim 1, further comprising an A/D converter between the receiver and the modifying circuit.

3. (Original) The wireless communication system of Claim 1, further comprising a D/A converter between the modifying circuit and the transmitter.

4. (Original) In a communication system including a primary receiver, a primary transmitter, and a repeater that applies a known modification to a primary signal passing there through that identifies the repeater, where the primary receiver receives a first signal from the primary transmitter either directly or via the repeater, and where the first signal includes a primary signal and, if the first signal is received from the repeater, also includes a secondary signal that is a function of the primary communication signal and the known modification applied by the repeater,

the method of determining if a signal received by the primary receiver is received directly from the primary transmitter or indirectly through the repeater, comprising the steps of:

receiving the first signal at the primary receiver;

outputting the primary signal from the primary receiver;

receiving the first signal at a secondary receiver and obtaining the primary signal from the primary receiver;

applying an inverse function of the first signal and the primary signal to retrieve a modification; and

determining whether the first signal has been received from the repeater by comparison of the modification and the known modification.

5. (Original) The method of Claim 4, wherein the communication system is a wireless communication system.

6. (Original) The method of Claim 4, wherein the primary receiver is a network analysis system.

7. (Original) The method of Claim 4, wherein the primary transmitter is a mobile unit.

8. (Original) The method of Claim 4, wherein the primary signal is a uplink signal.

9. (Original) The method of Claim 4, wherein the primary signal is a downlink signal.

10. (Original) The method of Claim 4, wherein the known modification is multiplication by a identification signal.

11. (Original) The method of Claim 10, wherein the identification signal is AM.

12. (Original) The method of Claim 4, wherein the primary signal is amplified such that the ratio of the primary signal to the secondary signal is greater than unity.

13. (Original) The method of Claim 12, wherein the secondary signal is 9dB less than the primary signal.

14. (Original) The method of Claim 4, wherein the primary transmitter is a mobile unit.

15. (Original) The method of Claim 4, wherein the secondary receiver is a network analysis system.

16. (Original) The method of Claim 4, comprising the step of nulling the primary signal.

17-23. (Canceled)

24. (Original) In a wireless communication system having one or more repeaters, a first node and a second node, a method of determining if a signal received at the first node is received directly or via one of the one or more repeaters comprising;

creating, at the one or more repeaters, a composite signal w(t) that is a function $f(r(t),s(t))$ of a primary signal s(t) received from the second node and a known identification signal $r_k(t)$, where $r_k(t)$ is unique for each of the one or more repeaters;

transmitting the composite signal to the first node;

detecting at the first node the primary signal s(t);

determining an identification signal r(t) from an inverse function $g(w(t),s(t))$ of the composite signal w(t) and the primary signal s(t), where g is the inverse of f; and

determining if the signal is received via the one or more repeaters based at least in part by the identification signal and the known identification signals of the one or more repeaters.

25. (Original) The method of Claim 24, wherein the known identification signal is AM modulated.

26. (Original) The method of Claim 24, wherein the function $f(r(t),s(t))$ is $s(t)(1+r_k(t))$.

27. (Original) The method of Claim 24, wherein the inverse function $g(w(t),s(t))$ is $s^{-1}(t)(w(t)-s(t))$.

28. (Original) The method of Claim 24, wherein the one or more repeaters are synchronized.

29. (Original) The method of Claim 24, wherein the one or more repeaters are not synchronized.

30. (Original) The method of Claim 24, wherein the plurality of repeaters are synchronized.

31. (Original) The method of Claim 24 wherein the first node is a network analysis system.

32. (Original) The method of Claim 24 wherein the second node is a mobile unit.

33. (Original) The method of Claim 24, wherein the primary signal is a uplink signal.

34. (Original) The method of Claim 24, wherein the first node is a mobile unit.

35. (Original) The method of Claim 24, wherein the second node is a network analysis system.